



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/647,469

08/26/2003

Steven T. Fink

240139US6YA

2304

22850

7590

06/04/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

PASCHALL, MARK H

ART UNIT

PAPER NUMBER

3742

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/647,469

Applicant(s)

FINK, STEVEN T.

Examiner

Mark H Paschall

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8, 9, 11-14, 21, 22 and 1617 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 10, 15 and 18-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 5,6,13,14 are objected to because of the following informalities: claim 6 defines that the focus ring "comprises a plurality of holes". Claim 6 should be redefined to specify, " further comprising a plurality of holes in the focus ring", or similar language. Appropriate correction is required. The same changes should be made to claims 7,13,14 since these claims contain similar language.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 21 sets forth that the holes in the focus ring are larger than the holes in the ring closer to the second side. It is not clear if the holes have a varying diameter or the holes have a constant diameter since the orientation of the first and second sides has not been defined. For instance, if the first and second sides were the top and bottom of the ring (lying in planes parallel to the radius of the ring) then the holes would have to be of varying diameter. Applicant should define the first and second sides relative to the ring orientation, to make clear the position of the holes.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,11,12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ishii . . Note focus ring 6 in Ishii in figure 1 , where the top surface of the ring 9(first or major side) has a width smaller than the bottom surface (second or minor side). As per claim 2 Ishii teaches a quartz material for the ring.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3,4,13,14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii . . These claims call for the ring to be comprised of dielectric or partially metal surface. Since Ishii teaches use of other non-conductors it is considered a matter of choice for the artisan to choose the claimed materials since the choice of material depends on the end use of the reactor and the gases and materials to be used.

Claims 8,9,16,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii in view of Park et al. Ishii teaches the claimed subject matter except for showing use of mounting points to connect the ring to the chuck. Park et al in figure 10 clearly show use of mounting points 330 which are used to connect the chuck to the ring. Choice of such mounting points is obvious in view of Park et al since Park et al evidence that it is routine and obvious to use these points, as one of many schemes available that would correctly fasten the chuck to the ring. In view of this teaching it would have been obvious to modify Ishii to use connecting points such as holes, to connect the chuck to the ring.

#### ***Allowable Subject Matter***

Claims 5,7,10,15,18,19,20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 5 contains ring specifications not taught in the prior art of record, Likewise claim 7 sets forth varying size holes and claim 16 defines holes in the focus ring, features not set forth in the prior art of record.

Art Unit: 3742

Claims 21 and 22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shim, Johnson and Nezu are cited for disclosing plasma systems having focus rings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H Paschall whose telephone number is 703 308-1642. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 703 308-2634. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark H Paschall

Application/Control Number: 10/647,469  
Art Unit: 3742

Page 6

Primary Examiner  
Art Unit 3742

mp

A handwritten signature in black ink, appearing to read "M. Pan", with a long horizontal flourish extending to the right.